

## REVENUE-BASED MULTIPLIERS AS AN INDICATOR OF THE INVESTMENT ATTRACTIVENESS OF DOMESTIC VERTICALLY INTEGRATED OIL AND GAS COMPANIES

Oleg V. SHIMKO

Center for Innovative Economics and Industrial Policy,  
Institute of Economics of Russian Academy of Sciences (IE RAS),  
Balashikha, Moscow Oblast, Russian Federation  
shima\_ne@mail.ru  
<https://orcid.org/0000-0002-0779-7097>

### Article history:

Article No. 76/2022  
Received 24 Feb 2022  
Received in revised  
form 16 March 2022  
Accepted 30 March 2022  
Available online  
29 June 2022

**JEL classification:** G32,  
L25, L71, M41, O12

**Keywords:** revenue,  
valuation, comparative  
approach, multiplier, oil  
and gas industry

### Abstract

**Subject.** This article focuses on the ratios of market capitalization or enterprise value to net revenue from core activities of the twenty five leading publicly traded oil and gas companies within 2008 through 2018.

**Objectives.** The article aims to identify key trends in the considered ratios of the oil and gas industry corporations and in the ratio changes within the studied period, and identify the factors that have caused these changes.

**Methods.** For the study, I used comparative, and financial and economic analyses, and generalization of materials of the companies' consolidated financial statements.

**Results.** Revenue-based ratios are found to be applicable to assess the value of oil and gas companies. Companies with better profitability have higher multiplier values with a similar net revenue structure. It was determined that integrated corporations usually lag behind independent companies in terms of multiples. It was found that the output of oil products from purchased raw materials is estimated by market to be lower than products produced from own resources. The presence of resale in the revenue structure reduces the multiplier value. The debt burden growth contributes to the multiplier reduction. Therefore, in multiplier, it is advisable to use the enterprise value indicator that includes net debt instead of market capitalization with a significant difference in the debt component. The found country factor should be taken into account when using the multiplier.

**Conclusions and Relevance.** The use of revenue-based multipliers requires a thorough analysis of the financial and business operations of companies. However, it is quite acceptable if the overall profitability decreases and the debt burden increases in the stock market segment of the global oil and gas industry. The results of the study can be used to assess the value of oil and gas assets as part of a comparative approach and develop measures to increase the market capitalization of publicly traded oil and gas corporations.

© Publishing house FINANCE and CREDIT, 2022

The editor-in-charge of this article was Andrey V. Bazhanov

**Please cite this article as:** Shimko O.V. Revenue-Based Multipliers as an Indicator of the Investment Attractiveness of Domestic Vertically Integrated Oil and Gas Companies. *Digest Finance*, 2022, vol. 27, iss. 2, pp. 130–151.  
<https://doi.org/10.24891/df.27.2.130>

## Introduction

Representatives of the economic direction of domestic science have shown a stable and genuine interest in various areas of financial and economic activity within the oil and gas industry throughout the modern history of Russia. This specificity is due to the importance that this sector represents for the entire national economy of the country. It is important to note that until now it is the oil and gas industry that dominates the structure of industrial production and merchandise exports and therefore brings an impressive component of the budget revenues and ensures the filling of the country's stabilization fund. In addition, leading oil and gas corporations form the backbone of the stock market sector in Russia.

The scientific community also explores such a very significant direction for the entire industry as asset valuation. The authors study in detail the main methods of the income, expense and comparative approach, determine the advantages and disadvantages of their use within the industry, and also assess the possible cost of certain oil and gas corporations. It is necessary to highlight among them related to the comparative approach in the assessment the analogous company method and the method of industry coefficients, which have become quite widespread in the domestic scientific literature [1]. These methods are based on the use of a number of multipliers, among which there are generally accepted coefficients and special industry indicators that are typical only for the oil and gas sector. The list of standard multiples often includes ratios based on assets [2], revenue [3], net income [4], EBITDA [5] and DACF [6], but the components used purely in industry indicators usually mean data on production [7] and reserves [8] of crude oil and natural gas.

Meanwhile, when assessing the value using the methods of the comparative approach [9] the indicator of the ratio of market capitalization to revenue is considered one of the key coefficients for investors in the entire stock market segment [10], including within the oil and gas industry [11]. Therefore, taking into account the importance of the industry for the Russian economy, it is quite natural that in scientific articles the peculiarities of assessing the value of a company [12] and the risks of using multiplier technology [13] are studied precisely on the example of corporations in the oil and gas sector, and they touch upon this indicator. In addition, revenue-based multipliers are used to analyze the investment attractiveness of oil and gas corporations against the background of their competitors [14]. Besides, the studied ratios are indicated as the main indicators in determining the fair value of oil and gas corporations for making a decision on the repurchase of shares [15]. These multipliers are also important in organizing internal financial control [16], assessing efficiency [17] and analyzing factors influencing the development [18] of oil and gas companies.

At the same time, it should also be noted that the authors very poorly cover such an important aspect within the designated topic as the determination of the characteristic level of revenue-based multipliers across the entire stock market sector of the global oil

and gas industry. In addition, the main trends and key reasons for the transformations taking place in the oil and gas sector are not identified. It is worth noting that conducting such studies is in itself a very difficult task, which requires the accumulation and subsequent analysis of a rather impressive array of information over a fairly long period of time and for a large number of publicly traded oil and gas corporations. Nevertheless, only this approach allows one to form a fairly complete and reliable idea of the situation that is developing in the industry with the considered coefficients.

### **Methodology for compiling a list of the world's leading publicly traded oil and gas corporations**

The choice of principles in accordance with which corporations are sorted and included in the aggregate list then analyzed is of significant importance in establishing the level of certain indicators inherent in the entire exchange segment. In this context, it should be noted that for any publicly traded company the most important characteristic is market capitalization, and therefore this indicator is best suited as a target benchmark for inclusion in the list of leading publicly traded corporations in the oil and gas industry. However, the stock market segment of the world economy consists of a huge number of companies representing various sectors of the national economy. In this case, an important factor for the subsequent analysis is the possibility of selecting companies for the list of the world's leading publicly traded oil and gas corporations within a very long period of time based on reliable information sources, which, as a result, allows us to trace the change in the multiplier values typical for the stock market segment of the oil and gas industry as a whole.

The stated approach in aggregate is satisfied by the issued until 2015 Financial Times Global 500<sup>1</sup> rating and the still published Forbes Global 2000<sup>2</sup> list, which contains information on the market capitalization of the world's largest publicly traded corporations. It turns out that it is advisable to include only those companies in the list of leading publicly traded oil and gas corporations necessary for the further formation of industry indicators, which were included on a relatively constant basis in each of the ratings available at that time throughout the entire period under consideration. It has been established based on the analysis of the ratings published within the time interval covered by the study that 25 companies in the global oil and gas industry quite satisfy such criteria.

It should be noted that the largest number of companies in the formed list are representatives of the US oil and gas sector. These include the well-known transnational integrated corporations ExxonMobil and Chevron, as well as fairly significant independent companies ConocoPhillips, Occidental Petroleum, Devon Energy, Anadarko Petroleum, EOG Resources, Apache and Marathon Oil. Such leadership looks quite

---

<sup>1</sup> FT Global 500 2015. Market Values and Prices at 31 March 2015.  
URL: <http://im.ft-static.com/content/images/b38c350e-169d-11e5-b07f-00144feabdc0.xls>

<sup>2</sup> Forbes Global 2000 2019. The World's Largest Public Companies. URL: <http://www.forbes.com/global2000/list>

natural, because it is in the United States that many more large stock market companies are concentrated than in any other country in the world. The list also includes companies from another North American country, Canada. Among them are the integrated corporations Imperial Oil, Suncor Energy, Husky Energy and the independent company Canadian Natural Resources. The list also includes a South American company, which is the integrated corporation Petrobras from Brazil.

The list includes the integrated corporations Royal Dutch Shell, BP, TOTAL, Eni and Equinor from Western Europe. China is represented in this list by the integrated corporations Sinopec and PetroChina, as well as the independent company CNOOC. The general list also includes companies from Russia. These are the leading integrated oil and gas corporations PJSC Gazprom, PJSC NK Rosneft and PJSC LUKOIL. All of the above companies in total form the list of publicly traded oil and gas corporations, on the basis of which the level of the considered multipliers typical for the stock market segment of the oil and gas industry is then compiled.

### **Methodology for assessing the revenue of the leading publicly traded oil and gas companies**

Despite the seeming simplicity and obvious stereotyped components of the coefficients of the ratio of market capitalization or enterprise value to revenue, there are also some nuances that must be taken into account in the process of determining these multipliers. The main difficulty in comparing oil and gas corporations from different countries of the world over a long period of time is the proper choice of a generalized indicator, which then it is advisable to use as revenue. For example, oil and gas corporations from the United States are notable for the fact that they do not include royalty payments in the structure of their own revenues.

In turn, industry companies from Canada have only switched to this practice in the previous decade. In addition, not all oil and gas corporations in Canada reflect excise taxes, duties, as well as all other taxes that are not related to income tax in their cost structure, and therefore do not take them into account in their revenues. Another clear example of the fact that over time in the structure of the income statement of different companies are capable of certain transformations is ExxonMobil, which since 2017<sup>5</sup> has ceased to include sales taxes in its costs, and therefore cleared its revenue by the amount of this component. Leading domestic oil and gas corporations, on the contrary, still continue to take into account the component from excise taxes and export duties in costs and revenues.

In addition, when displaying information in the income statement, some companies refer to revenue only sales that arise from core activities in connection with the sale of their

---

<sup>5</sup> Form 10-K Annual Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934 for the Fiscal Year Ended December 31, 2017. Exxon Mobil Corporation.  
URL: <https://www.sec.gov/Archives/edgar/data/34088/000003408818000015/xom10k2017.htm>

own products or marketing resale of previously purchased goods, and the remaining proceeds are classified as other income. Among the studied corporations of this kind are Canadian Natural Resources, Petrobras, PetroChina, Sinopec, Total, PJSC Gazprom and PJSC LUKOIL. Other companies compose revenue from core activities with a different set of other receipts as an initial component in the report. Among other receipts it is worth highlighting such as income from equity participation in subsidiaries or profit from the sale of assets. Meanwhile, as a rule, the share that falls on non-main activities for oil and gas corporations is not high in the total structure of revenues, but in some cases such revenues can have a significant impact on the aggregate indicator.

It turns out that in order to correctly compare companies with each other and establish a characteristic indicator for the entire stock market segment of the industry, it is necessary to be guided by such a component from the aggregate sales, which seems possible to establish for any large publicly traded oil and gas corporation. The role of such an indicator is best suited to net revenue from core activities, which do not include all other receipts and are also cleared of royalties, excises, export duties and other taxes not related to income tax. The revenue from core activities for an oil and gas company means the sale of its own and the resale of purchased reserves of oil, gas condensate, natural gas and refined and petrochemical products.

The choice of this indicator has a number of advantages, which are precisely related to the fact that such revenue includes only the component of total sales intended directly for the corporation itself, where receipts from non-core activities is not taken into account. Thus, the existing approaches to taxation of the oil and gas sector in different countries are characterized by the presence of rather significant differences. This discrepancy is expected to result in oil and gas corporations receiving very different shares of total sales revenue. Moreover, such single proceeds from non-core activities as the sale of a share in non-current assets that is significant for the size of the company itself can significantly affect the aggregate performance of an oil and gas corporation. Therefore, it is the net revenue from core activities that it is advisable to use as an integral component of the investigated multiplier when comparing oil and gas corporations from different countries and determining the level of the indicator inherent in the entire stock market segment of the industry.

### **Dynamics of changes in the values of based on the revenue multiples of the leading publicly traded oil and gas companies**

It is necessary to note a slight total increase in typical for the stock market segment of the oil and gas industry ratio of market capitalization to net revenue from core activities. In addition, the highest value of this indicator exceeded its lowest value by about two times within the studied period of time (*Table 1*). Consequently, the market capitalization of companies in the industry does not change in proportion to revenue. Nevertheless, the average varies within a rather narrow range of values, which makes the ratio of market capitalization to net revenue from core activities quite acceptable for assessing the value

of industry assets even during periods of low oil prices. At the same time, it is advisable to study the dynamics of change in multipliers in the context of individual regions or countries due to the impressive number of analyzed oil and gas corporations. This approach makes it easier to identify and highlight the characteristic features of individual companies in the industry.

Thus, the analysis of the coefficients of the representatives of the oil and gas sector in the United States demonstrates that for the integrated corporations of the country lower values of this indicator are inherent in comparison with independent companies. This result is due to the fact that revenues of integrated corporations are mainly formed by proceeds from sales of the refining segment products, which are often much higher in value per barrel than crude oil and natural gas. This thesis is clearly confirmed by comparing the values of the ratios of shareholders' net income to net revenue from core activities of integrated corporations and independent companies (*Table 2*). Moreover, the multiples' scores for integrated corporations are usually more stable and vary within a narrower range than those for independent companies. The information on the studied multiples of ConocoPhillips and Marathon Oil is also noteworthy.

These corporations have made a decision to split the business by completely removing the refining segment from their structure. The publicly traded corporation Marathon Petroleum spun off from Marathon Oil and consolidated all the refining assets of the parent company in 2011. Consequently, Marathon Oil itself has evolved from an integrated corporation to an independent company specializing in crude oil and natural gas production. ConocoPhillips underwent similar changes a year later, when the company's refining segment was transformed into an independent publicly traded corporation Phillips 66. It is important to note that the value of the ratio under consideration for Marathon Oil and ConocoPhillips has grown significantly after these transformations. Therefore, when assessing the cost and comparing oil and gas corporations, it is important to take into account the existing differences in the development of oil refining.

Attention is drawn to the fact that Devon Energy, ConocoPhillips and Marathon Oil had very low values of the indicator under study against the background of competitors in the US oil and gas industry in certain periods of time. It should be noted that Devon Energy has traced a clear decline in the multiplier level since 2014. According to the financial statements, the company's revenue in the transportation, storage and marketing segment for the indicated year increased from USD 2,066 million to USD 7,667<sup>4</sup> million, while sales of oil, natural gas and gas condensate increased from USD 8,522 million up to USD 9,910 million. At the same time, there was a noticeable increase in costs in the transportation, storage and marketing segment, which in the same year rose from USD 1,553 million to USD 6,815 million. The quite commensurate increase in revenue and

---

<sup>4</sup> Form 10-K Annual Report Pursuant to Section 13 or 15 (d) of the Securities Exchange Act of 1934 for the Fiscal Year Ended December 31, 2014. Devon Energy Corporation.  
URL: <http://d11ge852tjqqow.cloudfront.net/CIK-0001090012/586c36d8-232d-4072-8807-07c5da8a19c5.pdf>

expenses in the designated segment of Devon Energy's activities was the result of a purely formal purchase and subsequent sale of raw materials, which arose in connection with the assumption of obligations to ensure the loading of downstream pipelines, and therefore did not lead to a commensurate increase in market capitalization.

It turns out that this feature of the revenue structure must be taken into account when assessing the value using the specified multiplier. It turns out that close attention should be paid to the structure of revenue from core activities when choosing an analogue company. And as a typical example, data on the structure of net proceeds from core activities for 2016 (*Table 3*) are quite suitable, when average oil prices at the height of the industry crisis were at the lowest level within the period covered. It is noteworthy that ConocoPhillips does not provide separate information for each segment of revenue in its reporting, but only publishes data separately for those sales that are related to oil and gas activities. But it seems possible to draw certain conclusions on the share of resales in this case as well.

Thus, ConocoPhillips' own costs for the purchase of raw materials amounted to USD 9,994 million, with net sales of operating activities of USD 23,693 million and revenues from activities directly related to hydrocarbon production of USD 12,599<sup>5</sup> million. Accordingly, it is estimated that non-production segments could have accounted for approximately 45 of total sales. Moreover, the company's costs for the purchase of raw materials are quite comparable to the total revenue from all activities not directly related to hydrocarbon production. Consequently, proceeds from the resale of raw materials also did not lead to a corresponding increase in the company's market valuation in the case of ConocoPhillips, which reduced the value of the multiplier under study.

Marathon Oil also has a marketing segment, which includes the purchase of goods from third parties for resale and serves to aggregate volumes in meeting transport obligations, as well as to achieve flexibility in terms of product types and delivery points. However, the share of the component in the revenue structure is small, and therefore the marketing segment alone could not serve as a key reason for the company's low values of the indicator. A whole range of reasons were at play in the case of Marathon Oil. It should be noted that one of these factors is the presence of a very tangible component from the sale of synthetic oil, which is obtained from the oil sands being developed, and therefore belongs to unconventional resources for corporations in the industry.

At the same time, the costs associated with sand extraction and subsequent oil production often significantly exceed the costs of extracting traditional resources for the industry. Naturally, this circumstance negatively affected the profitability of Marathon Oil, especially during the protracted industry crisis, when oil quotes were at a low level for a long time. In turn, low profitability did not reflect in the best way on the company's market capitalization. Therefore, the company sold its entire oil sands business in Canada

---

<sup>5</sup> 2016 Annual Report. ConocoPhillips Company.  
URL: [http://static.conocophillips.com/files/resources/conocophillips\\_2016\\_annualreport.pdf](http://static.conocophillips.com/files/resources/conocophillips_2016_annualreport.pdf)

as early as 2017. It is noteworthy that this component is also present in the structure of net proceeds of oil and gas corporations ConocoPhillips and Devon Energy.

Occidental Petroleum's net revenue structure is also of interest. The company has a highly developed petrochemical business, which sets Occidental Petroleum apart from other leading independent oil and gas corporations and has a significant impact on total revenues. Moreover, the value of the multiplier of the ratio of market capitalization to net revenue from core activities at Occidental Petroleum was at a sufficiently high level for independent companies, especially during periods of low oil prices, which confirms the positive role of a more stable, compared to the production segment, chemical business for market valuation of the corporation.

Besides, the listed features indicate that, it is necessary to pay rather close attention to the difference in the level of profitability of individual segments of the compared corporations, in addition to the existing structure of revenue from core activities. In this context, it is necessary to note the oil and gas company EOG Resources, which stood out among its competitors in the US oil and gas sector by rather high multiplier values. Importantly, it was EOG Resources that had a comparatively good profitability level for independent companies in the US oil and gas industry even during periods of low oil prices, which is evident from the ratio of shareholders' net income to net revenue from core activities.

Such profitability of EOG Resources was a consequence of the development strategy followed by this corporation. It is important to emphasize that the company was able to double the book value of its assets within the period covered. Moreover, EOG Resources set rather strict requirements for the acquired assets. It was important for the corporation that such assets were better than those available to the company itself, their value was fair from the standpoint of EOG Resources itself, and reasonable conditions for financing the transaction were provided. The corporation was guided by the fact that it will be able to provide an average annual production growth in the range from 15 to 25 and pay dividends to shareholders at oil prices in the range from 50 to 60 US dollars per barrel due to the generated cash flow.

Moreover, EOG Resources has been trying to ensure profitability after the fall in oil prices in 2014. The corporation also imposed certain requirements on its wells according to the chosen development concept, which consisted in ensuring a rate of return after paying income tax of 30 with WTI oil quotes at \$40 per barrel and a gas price of \$2.5 per 1,000 cubic feet. The indicated oil and gas prices were minimal or close to those in accordance with the views of EOG Resources itself. Besides, the company itself stated that their wells were among the best in the US oil and gas industry in terms of productivity, mainly due to the active use of advanced technologies.

The ratio of market capitalization to net revenue from core activities is also influenced by the level of debt in addition to the profitability of individual segments and the entire



business structure. The stated impact is manifested in the fact that an increase in the debt burden in the total capital of the company lowers the market value of the shareholder component. In this context, it is necessary to single out the companies Devon Energy, Anadarko Petroleum and Apache, which have a noticeable increase in debt burden (*Table 4*) against the background of competitors in the oil and gas industry after the industry crisis that began in 2014, which negatively affected the level of the multiplier in question for these corporations. Then it is preferable to use enterprise value instead of capitalization in the numerator of the multiplier to compare corporations that have an impressive difference in the level of debt burden on equity capital. The indicator is the sum of market capitalization and net debt, which makes it possible to somewhat neutralize the impact that the debt component has on the valuation of shareholders' capital (*Table 5*).

At the same time, a rather tangible final increase in debt contributed to the fact that ExxonMobil's value of the specified multiplier did not increase over the studied period as significantly as Chevron's. Meanwhile, only one debt factor could not cause such a noticeable difference in the dynamics of changes in the values of the ExxonMobil and Chevron multiples. It is also noteworthy that the ratio of market capitalization to net revenue from core activities of the companies was approximately at the same level in 2016. Moreover, the differences in the aggregate share of marketing, refining and petrochemical segments in the structure of net revenue from core activities for ExxonMobil and Chevron are rather small.

The difference in operating results deserves special attention (*Table 6*). It turns out that Chevron refined less oil than it produced and was also very actively involved in the resale of petroleum products. In contrast, ExxonMobil's refined product output significantly exceeded liquid hydrocarbon production, and the share of resale of refined products was not as significant as Chevron's. It appears that the high share of resale in the sales structure leads to a noticeable decrease in the multiplier level in the case of oil products. Moreover, it turns out that the release of petroleum products from purchased raw materials does not contribute to such an increase in market capitalization as in the case of production from own hydrocarbons. Consequently, the processing of purchased raw materials also leads to a decrease in the value of the multiplier, but less noticeable than in the case of resale. It is important to emphasize that the impact of the chemical segment was not as noticeable as that of the marketing and refining components, due to its small share in the total structure of revenue from core activities, even for ExxonMobil, which in terms of mass sales of petrochemical products was several times higher than Chevron's.

The described patterns are vividly confirmed by the comparison of the integrated corporations under study and the refiners Phillips 66 and Marathon Petroleum, withdrawn from the business structure of ConocoPhillips and Marathon Oil, which completely lack their own hydrocarbon production. Comparison of the above corporations by multipliers expressing the ratio of market capitalization and enterprise value to physical indicators of the output and sale of processed products (*Table 7*) is indicative. Comparison of the companies shows that Phillips 66 and Marathon Petroleum were several times behind

ExxonMobil and Chevron in terms of affected ratios. These results are quite consistent with previous findings that the market valuation of refined products from own feedstock is much higher than for refined products from purchased crude oil. However, both Phillips 66 and Marathon Petroleum also show that resale of purchased products has little impact on market capitalization.

Nevertheless, it is necessary to pay attention to the operating indicators of ExxonMobil and Chevron in 2012 in order to determine the factors that influenced the transformation of the values of the multiples of the companies. Meanwhile, a comparison based on the structure of net revenue from core activities of different time periods seems to be incorrect due to serious differences in the dynamics of prices for extracted raw materials and refined products. In the case of ExxonMobil, the main difference from 2016 was that the company previously produced about 20 more refined products from purchased raw materials, and therefore their total sales were higher by the amount of the corresponding difference. More serious changes were noted at Chevron. It should be noted that in 2012 the company's output of refined products slightly exceeded the level of production of liquid hydrocarbons. It turns out that the production of petroleum products fell by almost a third and the decrease in production led to a commensurate drop in their sales by 2016. Consequently, along with the change in the debt burden, one of the main reasons for the differences in the dynamics of the multipliers was the transformation in the refining segment, which turned out to be much more serious for Chevron.

It should be noted that the revealed patterns are quite relevant for Canadian oil and gas companies. Thus, the value of the multiplier of market capitalization to net revenue from core activities of independent company Canadian Natural exceeded the corresponding indicators of the integrated corporations Imperial Oil, Suncor Energy and Husky Energy. At the same time, Imperial Oil has the largest share of oil refining and petrochemical segment among the studied Canadian companies (*Table 8*) in the structure of sales from core activities, and therefore does not exceed Suncor Energy's indicators in terms of the multiplier, which is quite expected. Much more interesting is the situation with Husky Energy, which was inferior to Suncor Energy and Imperial Oil both in terms of the refining segment's share in the total structure of net revenue from core activities and in terms of the multiplier itself.

A number of factors contributed to this apparent discrepancy. Among them, it is important to highlight the very low, especially against the background of Suncor Energy, the level of profitability, which the corporation managed to maintain through the sale of part of its assets in 2016. The reason for these results was the fact that the core of the company's production segment was formed by the extraction of heavy oil and the production of bitumen from oil sands. In addition, Husky Energy included the Canadian bitumen-based synthetic oil complex in the refining and marketing segment. The company also classified its own production of road asphalt as a processing asset in the country. However, most of Husky Energy's revenues and physical volumes of refining came from assets located in the United States, and, as previously determined, refining from purchased raw materials

contributes to market capitalization growth much weaker than output from hydrocarbons produced by the corporation itself. Moreover, Husky Energy also stands out for its low indicators of availability of proved hydrocarbon reserves (*Table 9*), which expresses the very high intensity of field development for the industry in the current economic conditions, and therefore negatively affects the market's assessment of equity capital (*Table 10*).

In addition, the leading integrated corporations in Europe are in line with the identified trends. Equinor has the smallest share of refining in the structure of net revenue from core activities, and therefore the company's multiplier is higher in value than its competitors. Meanwhile, Equinor is characterized by a low level of availability of proved reserves for the industry, which has a negative impact on the market valuation. Eni slightly outperforms Equinor in terms of the share of refining in revenue, but the value of the studied multiplier for the company is approximately at the same level as for the corporation TOTAL, which has a much larger share of this segment in the structure of sales from core activities. This result is due to the fact that Eni is noticeably lagging behind TOTAL in terms of profitability, which is reflected in the company's market valuation.

At the same time, BP deserves special attention due to the fact that the company's value of the analyzed multiple was at a very low level throughout the entire studied period. It should be noted that the company has the largest segment of marketing, oil refining and petrochemicals in relation to all net revenue from core activities among all the leading publicly traded oil and gas corporations in Europe. At the same time, the lag of Royal Dutch Shell and TOTAL from BP in terms of this indicator is rather insignificant. Nevertheless, analysis of BP's operating results shows that the company was much more active in the resale of petroleum products than Royal Dutch Shell and TOTAL.

Moreover, BP's marketing, refining and petrochemicals segment also included crude oil sales, which were carried out primarily to optimize supplies to its own refineries. This figure in 2016 was 2,169 thousand barrels per day. Importantly, crude oil sales accounted for \$31,569 million out of \$167,683<sup>6</sup> million in this segment's revenues for the year, or about a fifth of total sales. As it was stated earlier, proceeds from resale do not contribute to a significant increase in market capitalization, which was reflected in the low values of the multiplier under study.

Certain patterns also appear when studying the indicators of the ratio of market capitalization to net revenue from core activities of the largest publicly traded oil and gas corporations in China, Brazil and Russia. It is noteworthy that the values of the multiplier of the independent company CNOOC quite naturally exceed the corresponding indicators of the integrated corporations PetroChina and Sinopec. In addition, the value of the specified coefficient for CNOOC is quite consistent with the level of the studied

---

<sup>6</sup> Financial and Operating Information 2012–2016. BP p.l.c. URL: <https://www.bp.com/content/dam/bp/business-sites/en/global/corporate/pdfs/investors/bp-foi-full-book-2012-2016.pdf>

independent US companies. In the structure of net revenue from core activities of CNOOC (*Table 11*) there is also a marketing segment related to the resale of hydrocarbon raw materials, which usually does not have the best effect on the analyzed indicator. However, the share of this segment in the structure of net revenue from core activities is not so significant.

At the same time, Sinopec significantly outperforms PetroChina in terms of the share of refining and petrochemicals in the structure of net sales. Therefore, it seems quite natural that Sinopec is inferior to PetroChina in terms of the multiplier. Special attention should be paid to the fact that the level of this indicator in companies is very low compared to the main competitors, especially Sinopec. The reason is that the marketing segment of companies includes substantial revenues from the resale of refined products. It turns out that resale was one of the key factors behind the low values of the indicator under study also for the leading integrated corporations in China. Moreover, the Sinopec multiple was negatively impacted by a very low level of availability of proved reserves.

It should be noted that Petrobras has adopted a somewhat specific configuration of those segments that form the total net sales from operations. It is noteworthy that the proceeds from sales of refined products are included in the distribution, as well as refining, transportation and marketing segments. The distribution segment is mainly formed by proceeds from the sale of its own oil refining. At the same time, the segment of oil refining, transportation and marketing has absorbed revenue not only from the wholesale of refinery products, but also from other components. It includes proceeds from the transportation, export of oil and oil products, the sale of petrochemical products, raw materials from shale fields and liquefied petroleum gas. Despite this configuration, the very structure of net sales from Petrobras core activities is quite comparable to the sales of other leading publicly traded integrated oil and gas companies in the world.

Meanwhile, it is important to note that a corruption scandal that erupted in 2014 and led to a two-month delay in the publication of the company's annual financial statements and a revaluation of some of the assets had a significant impact on the value of the multiplier for Petrobras. This circumstance led to an increase in the debt component in the structure of total capital and affected the market capitalization of Petrobras, which declined much more significantly than that of other leading integrated corporations in the specified year, when the industry also experienced a collapse in commodity prices. The fall in the capitalization of Petrobras continued the following year, only then the situation with the market valuation of the corporation began to improve. In addition, the Petrobras multiples are another confirmation of the fact that a high debt component lowers the market valuation of shareholders' equity, and therefore it is advisable to use a multiplier based on the value of the enterprise if there is a significant difference in the level of debt of the compared companies.

The final group of companies under study is formed by the largest domestic oil and gas corporations PJSC Gazprom, PJSC NK Rosneft and PJSC LUKOIL. PJSC Gazprom and

PJSC LUKOIL were in terms of the ratio of market capitalization to net revenue from core activities at the level of Sinopec and BP, which have a very high share of resale of petroleum products in the total sales structure. However, this indicator of PJSC NK Rosneft was more in line with the values of the leading integrated corporations of the USA and Canada. It should be noted that PJSC NK Rosneft and PJSC LUKOIL had a structure of net revenue from core activities quite typical for other leading publicly traded integrated corporations.

Meanwhile, the listed companies had a relatively high share of the sale of crude oil and natural gas, especially PJSC NK Rosneft. Consequently, it is also natural that PJSC NK Rosneft surpassed PJSC LUKOIL in terms of the ratio of market capitalization to net revenue from core activities. Moreover, the consequences of the large transaction for the purchase of TNK-BP, completed in 2013, were noticeably reflected in the multiplier level of PJSC NK Rosneft. Moreover, a significant impact on the multiplier level of Rosneft was exerted by the consequences of a major transaction on the purchase of TNK-BP, which was completed in 2013. The key factor in this case was a very impressive increase in the debt burden, which was a consequence of the transaction and influenced the market capitalization of PJSC NK Rosneft.

At the same time, the structure of PJSC Gazprom's net revenue from core activities stands out against the background of other leading publicly traded companies in the industry, which is due to the specifics of the corporation itself. Thus, PJSC Gazprom mainly specializes in the production, transportation and subsequent sale of natural gas, while the processing of produced hydrocarbon raw materials is an auxiliary segment, which makes the company's business structure special not only for Russia, but also across the entire stock market segment of the global oil and gas industry. At the same time, the value of the studied multiplier for PJSC Gazprom seems to be very low compared to the values of the main competitors in the oil and gas industry, which have a more developed segment of refining. Such results are a clear manifestation of the country factor, especially against the background of companies from the United States, which is reflected in the low assessment of the entire domestic stock market sector by investors. This assessment is related to the export-oriented raw material structure of the Russian economy, which depends on commodity prices and is strongly influenced by the imposed sanctions. It was revealed that companies with a similar structure of net revenue from core activities have higher multiplier values in the case of better profitability. In addition, it was found that integrated corporations are characterized by lower multiplier values compared to independent companies.

## Conclusions

The study found that revenue-based multiples are quite acceptable for valuing oil and gas companies. Meanwhile, it is advisable for a correct assessment to use such a component from the aggregate implementation, which can be freely defined for any large publicly traded corporation in the industry. It was revealed that this indicator is net revenue from

core activities, which represents the sale of own and resale of purchased hydrocarbons, oil refining and petrochemical products, does not contain all other receipts, and is also cleared of royalties, excises, export duties and other taxes payments, which are not related to income tax.

In addition, it was determined that proper assessment requires a thorough analysis of the structure and profitability of each of the segments of the sales from core activities. It was also found that the market estimates the output of petroleum products from purchased raw materials lower than products produced from its own resources. In addition, it was determined that the presence of resale in the structure of sales from core activities reduces the level of the multiplier of oil and gas companies.

Moreover, it was found that an increase in the level of debt burden contributes to a decrease in the multiplier indicator. Therefore, when comparing or assessing the value of companies with a significant difference in the debt component, it is advisable to use the enterprise value indicator in the composition of the multipliers, which also includes net debt, instead of market capitalization. This multiplier adjustment is not a genuine substitute for the impact that debt has on market capitalization, but it does much to offset it. The presence of a country factor was also determined. This circumstance must be taken into account when using the multiplier of the ratio of market capitalization to net revenue from core activities of an oil and gas company.

**Table 1**

**Market capitalization to core activity net revenue ratio of the twenty five leading publicly traded oil and gas corporations for 2008–2018**

Company	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
ExxonMobil	1.04	1.34	1.19	1.02	1.01	1.23	1.17	1.55	2.18	1.71	1.17
Chevron	0.61	1.03	1.02	0.92	0.96	1.15	1.12	1.44	2.26	1.95	1.34
ConocoPhillips	0.35	0.57	0.56	0.41	1.30	1.68	1.69	2.01	2.70	2.28	2.01
Occidental Petroleum	2.06	4.41	4.30	3.26	2.63	3.19	3.31	4.26	5.55	4.62	2.65
Devon Energy	1.96	4.52	3.86	2.47	2.47	2.48	1.47	1.06	2.33	1.58	1.00
Anadarko Petroleum	1.34	4.12	3.87	3.07	3.08	2.90	2.76	2.76	4.86	2.74	1.75
EOG Resources	2.74	6.76	4.24	3.09	3.11	3.33	3.18	4.73	8.20	5.86	3.09
Apache	2.20	4.34	3.97	2.19	1.91	2.18	1.81	2.76	4.59	2.80	1.38
Marathon Oil	0.28	0.46	0.39	1.43	1.41	1.74	1.83	1.61	3.80	3.43	2.10
Imperial Oil	1.18	1.72	1.46	1.32	1.22	1.27	1.22	1.52	1.69	1.19	0.81
Suncor Energy	1.32	3.32	1.92	1.16	1.30	1.39	1.34	1.77	2.73	2.35	1.57
Husky Energy	1.06	1.70	1.30	1.02	1.30	1.43	1.10	0.90	1.32	1.00	0.67
Canadian Natural Resources	1.86	4.06	3.75	3.03	2.14	2.42	2.08	2.68	4.52	3.30	1.88
Royal Dutch Shell	0.34	0.66	0.55	0.49	0.47	0.51	0.51	0.55	0.98	0.91	0.62
BP	0.40	0.77	0.47	0.37	0.36	0.40	0.33	0.44	0.72	0.63	0.46
TOTAL	0.54	0.84	0.68	0.55	0.48	0.59	0.55	0.73	0.97	0.93	0.75
Eni	0.56	0.77	0.60	0.53	0.52	0.55	0.51	0.73	1.00	0.74	0.65
Equinor (Statoil)	0.56	1.00	0.84	0.76	0.63	0.75	0.69	0.84	1.30	1.16	0.90
PetroChina	1.87	2.73	1.56	1.00	0.85	0.69	0.93	0.95	0.98	0.77	0.59
Sinopec	0.40	0.90	0.38	0.26	0.23	0.20	0.28	0.32	0.38	0.33	0.23

CNOOC	2.77	5.07	4.49	2.49	2.96	2.07	1.57	1.92	2.88	2.40	2.26
Petrobras	0.81	2.18	1.91	1.07	0.87	0.65	0.34	0.27	0.80	0.75	0.86
PJSC Gazprom	0.79	1.53	1.34	0.93	0.79	0.70	0.62	0.59	0.66	0.54	0.50
PJSC NK Rosneft	1.18	3.15	2.04	1.37	1.71	1.20	0.81	0.94	1.45	0.94	1.06
PJSC LUKOIL	0.38	0.77	0.58	0.42	0.49	0.45	0.27	0.36	0.57	0.49	0.53
<b>Average value</b>	<b>1.14</b>	<b>2.35</b>	<b>1.89</b>	<b>1.39</b>	<b>1.37</b>	<b>1.41</b>	<b>1.26</b>	<b>1.51</b>	<b>2.38</b>	<b>1.82</b>	<b>1.23</b>

Source: Authoring, based on [19, 20]

**Table 2**  
**Net income of shareholders to core activity net revenue ratio of the twenty five leading publicly traded oil and gas corporations for 2008–2018, percent**

Company	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
ExxonMobil	11.8	8.01	9.97	10.43	11.65	9.13	9.78	7.71	4.57	9.52	8.45
Chevron	9.82	7	10.57	11.76	12	10.34	10.24	3.89	-0.5	7.52	9.62
ConocoPhillips	-7.72	3.63	6.58	5.49	15.49	17.77	13.62	-15.45	-15.75	-2.8	17.69
Occidental Petroleum	29.02	19.47	24.41	29.02	19.57	24.9	3.28	-64.51	-5.85	10.75	23.76
Devon Energy	-14.47	-33.88	52.01	46.35	-2.45	-0.2	9.43	-117.95	-32.28	6.51	30.26
Anadarko Petroleum	24.73	-1.81	7.79	-21.38	19.79	5.81	-11.57	-74.91	-58.82	-4.39	5.02
EOG Resources	40.18	15.05	2.93	12.74	5.4	15.95	18.36	-54.94	-15.42	24.22	20.84
Apache	6.28	-3.56	26.38	28.81	12.44	14.34	-41.34	-378.94	-26.81	22.73	0.56
Marathon Oil	4.92	3.04	3.85	20.41	10.27	12.39	29.18	-41.68	-55.4	-136.59	19.56
Imperial Oil	12.96	7.89	9.35	11.56	12.67	9.04	10.92	4.45	9.25	1.78	6.95
Suncor Energy	12.75	6.56	11.42	10.94	7.28	9.88	6.77	-6.83	1.62	13.86	8.54
Husky Energy	15.2	9.39	6.45	9.52	9.01	7.84	5.01	-23.52	7.14	4.23	6.55
Canadian Natural Resources	35.21	15.58	13.15	19.16	12.97	14.06	20.83	-5.15	-1.94	14.4	12.32
Royal Dutch Shell	5.73	4.5	5.47	6.58	5.69	3.63	3.53	0.73	1.96	4.25	6.01
BP	5.97	7.04	-1.27	7	3.15	6.3	1.08	-2.92	0.06	1.42	3.16
TOTAL	6.61	7.53	7.53	7.37	5.87	4.92	2	3.55	4.84	5.79	6.22
Eni	8.16	5.25	6.41	6.26	6.12	4.5	1.18	-12.97	-2.63	5.04	5.44
Equinor (Statoil)	6.64	3.96	7.23	12.2	9.76	6.44	3.61	-8.06	-6.4	7.53	9.59
PetroChina	12.08	11.7	10.93	7.65	5.94	6.45	5.24	2.34	0.55	1.25	2.46
Sinopec	2.13	5.1	4.09	3.16	2.46	2.46	1.76	1.82	2.75	2.41	2.33
CNOOC	43.22	31.15	34.96	35.59	31.29	23.28	25.34	12.88	0.47	14.22	25.09
Petrobras	15.05	18.38	16.29	13.83	7.68	7.89	-5.16	-8.94	-6	-0.1	7.56
PJSC Gazprom	22.79	28.39	29.29	30.98	28.25	25.08	3.3	14.94	18.26	13.48	21.65
PJSC NK Rosneft	36.16	25.68	30.8	26.7	23.37	24.57	13.58	12.37	6.17	6.73	12.73
PJSC LUKOIL	12.55	11.39	11.68	10.51	10.72	7.44	4.32	6.26	4.81	8.6	9.41
<b>Average value</b>	<b>14.31</b>	<b>8.66</b>	<b>13.93</b>	<b>14.51</b>	<b>11.46</b>	<b>10.97</b>	<b>5.77</b>	<b>-29.83</b>	<b>-5.81</b>	<b>1.69</b>	<b>11.27</b>

Source: Authoring, based on [19, 20]

**Table 3**  
**A structure of core activity net revenue of U.S. leading publicly traded oil and gas corporations in 2016, percent**

Core activity	ExxonMobil	Chevron	Occidental Petroleum	Devon Energy	Anadarko Petroleum	EOG Resources	Apache	Marathon Oil
Energy and electricity	–	–	–	–	–	–	–	–
Liquefied natural gas	–	–	–	–	–	–	–	–
Natural gas	9.23	14.89	58.95	9.04	18.52	9.94	18.02	73.41
Gas condensate	–	–	–	3.95	10.9	5.86	4.25	–
Crude oil	–	–	–	19.31	55.26	57.85	77.73	–
Bitumen	–	–	–	7.5	–	–	–	19.87
Synthetic oil	–	–	–	–	–	–	–	–
Chemical segment	11.92	84.98	34.72	–	–	–	–	–

Refining	78.85		–	–	–	–	–	–	–	–	–
Marketing and resale			–	–	60.19	15.32	26.35	–	–	–	6.71
Gathering and processing	–	–	6.32								
Transportation	–	–									
Distribution	–	–	–	–	–	–	–	–	–	–	–
Other revenue	–	0.13	–	–	–	–	–	–	–	–	–

Source: Authoring, based on [20]

**Table 4**

**Net debt to equity ratio of the twenty five leading publicly traded oil and gas corporations for 2008–2018, percent**

Company	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
ExxonMobil	-19.49	-0.98	4.9	2.83	1.21	10.38	14.05	20.48	23.37	20.86	18.12
Chevron	-0.91	1.63	-2.73	-4.81	-6.48	2.74	9.65	18	26.82	22.86	16.25
ConocoPhillips	48.4	45	20.62	25.82	37.73	29.59	33.72	56.62	67.66	43.71	28.34
Occidental Petroleum	3.55	5.38	7.8	5.56	15.07	8.22	8.72	21.08	35.29	39.65	34.15
Devon Energy	32.02	42.6	14.36	19.72	32.93	29.06	45.42	153.26	138.27	83.56	38.46
Anadarko Petroleum	43.84	38.23	45.12	69.22	52.34	45.14	39.15	115.55	99.4	104.11	177.99
EOG Resources	17.37	21.12	43.34	34.76	40.92	29.8	21.58	45.91	38.53	34.1	23.38
Apache	22.66	19.14	32.85	23.87	38.89	23.41	40.39	284.88	114.89	91.91	105.05
Marathon Oil	27.56	29.55	16.6	25.2	32.88	32.04	19	32.64	27.28	42.12	33.29
Imperial Oil	-20.2	-3.95	4.38	0.04	7.11	30.81	29.63	35.49	19.36	16.42	17.12
Suncor Energy	49.76	39.22	30.26	18.07	16.91	15.19	18.83	28.83	32.3	28.44	34.38
Husky Energy	7.26	19.68	25.4	11.65	9.88	15.05	19.56	40.31	22.81	16.29	7.38
Canadian Natural Resources	70.69	49.65	40.4	37.28	35.82	37.42	48.38	61.08	63.91	70.52	64.18
Royal Dutch Shell	6.35	18.55	20.87	15.27	10.19	19.36	13.92	16.35	39.3	33.63	25.21
BP	29.73	26.95	29.33	27.85	26	21.11	22.75	30.05	38.7	39.73	44.93
TOTAL	23.66	28.1	26.4	26.76	24.44	25.52	34.59	36.42	32.82	17.26	22.08
Eni	42.53	50.34	51.23	50.65	28.21	35.37	32.26	43.62	40.66	36.11	29.46
Equinor (Statoil)	28.37	40.94	39.89	34.76	17.7	28.02	39.75	60.14	77.32	61.01	43.45
PetroChina	11.71	17.4	20.01	25.65	37.75	39.22	39.6	39.66	35.18	28.7	26.48
Sinopec	66.53	55.8	46.03	44.5	52.38	51.76	53.91	27.8	9.54	9.17	5.96
CNOOC	-3.67	-2.26	-2.88	5.45	0.93	34.4	32.05	39.58	35.76	31.5	29.97
Petrobras	21.74	43.09	28.54	36.24	49.11	66.23	99.28	154.99	126.23	108.43	98.23
PJSC Gazprom	21.98	25.52	13.99	13.92	12.93	11.94	16.81	19.67	17.42	20.62	22.66
PJSC NK Rosneft	58.6	47.98	35.58	27.55	29.91	66.7	105.68	95.77	84.47	101.96	87.81
PJSC LUKOIL	15.04	16.16	14.91	9.37	5.06	11.59	12.97	18.7	13.57	8.21	1.04
<b>Average value</b>	<b>24.2</b>	<b>26.99</b>	<b>24.29</b>	<b>23.49</b>	<b>24.39</b>	<b>28.80</b>	<b>34.07</b>	<b>59.87</b>	<b>50.43</b>	<b>44.43</b>	<b>41.42</b>

Source: Authoring, based on [19, 20]

**Table 5**

**Enterprise value to core activity net revenue ratio of the twenty five leading publicly traded oil and gas corporations for 2008–2018**

Company	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
ExxonMobil	0.98	1.33	1.22	1.03	1.02	1.28	1.24	1.71	2.41	1.90	1.31
Chevron	0.60	1.04	1.00	0.90	0.92	1.17	1.20	1.67	2.66	2.23	1.51
ConocoPhillips	0.47	0.78	0.65	0.49	1.63	1.98	2.03	2.80	3.73	2.76	2.26
Occidental Petroleum	2.10	4.52	4.43	3.35	2.88	3.34	3.47	4.68	6.32	5.29	3.06
Devon Energy	2.33	5.43	4.18	2.88	3.31	3.07	2.04	1.94	3.14	2.14	1.34
Anadarko Petroleum	1.97	5.14	4.82	4.08	3.97	3.61	3.27	4.42	6.39	3.81	2.99
EOG Resources	3.00	7.35	5.05	3.61	3.62	3.66	3.42	5.45	8.95	6.38	3.37



Apache	2.53	4.72	4.66	2.62	2.67	2.69	2.61	3.95	5.96	3.99	2.43
Marathon Oil	0.35	0.59	0.45	1.73	1.80	2.18	2.21	2.76	5.03	4.61	2.82
Imperial Oil	1.12	1.70	1.48	1.32	1.26	1.47	1.42	1.85	1.90	1.33	0.94
Suncor Energy	1.75	4.09	2.27	1.34	1.48	1.55	1.53	2.15	3.27	2.75	1.96
Husky Energy	1.10	1.88	1.52	1.11	1.39	1.56	1.26	1.31	1.63	1.16	0.73
Canadian Natural Resources	2.78	5.01	4.41	3.65	2.74	3.02	2.82	4.03	6.11	4.64	2.86
Royal Dutch Shell	0.36	0.75	0.64	0.55	0.51	0.59	0.57	0.65	1.29	1.13	0.75
BP	0.48	0.89	0.56	0.45	0.44	0.48	0.41	0.57	0.93	0.79	0.61
TOTAL	0.62	0.97	0.79	0.66	0.58	0.70	0.70	0.96	1.22	1.06	0.89
Eni	0.74	1.05	0.87	0.79	0.65	0.73	0.68	1.07	1.39	1.00	0.85
Equinor (Statoil)	0.65	1.17	1.00	0.91	0.71	0.92	0.94	1.30	1.89	1.56	1.13
PetroChina	1.97	2.89	1.71	1.15	1.06	0.91	1.15	1.26	1.27	0.96	0.74
Sinopec	0.56	1.07	0.49	0.36	0.34	0.31	0.40	0.43	0.42	0.36	0.25
CNOOC	2.72	5.03	4.45	2.56	2.97	2.56	2.08	2.89	3.89	3.09	2.85
Petrobras	0.93	2.62	2.34	1.51	1.44	1.35	1.14	1.34	2.00	1.75	1.60
PJSC Gazprom	1.10	2.03	1.61	1.18	1.05	0.95	0.96	0.99	1.03	1.00	0.95
PJSC NK Rosneft	1.92	4.00	2.62	1.76	2.17	2.14	1.99	1.90	2.41	2.05	1.89
PJSC LUKOIL	0.48	0.92	0.69	0.48	0.52	0.53	0.37	0.49	0.67	0.54	0.54
<b>Average value</b>	<b>1.34</b>	<b>2.68</b>	<b>2.16</b>	<b>1.62</b>	<b>1.65</b>	<b>1.71</b>	<b>1.60</b>	<b>2.10</b>	<b>3.04</b>	<b>2.33</b>	<b>1.63</b>

Source: Authoring, based on [19, 20]

**Table 6**  
**Operating indicators of the leading publicly traded integrated oil and gas corporations for 2012 and 2016**

Company	Natural gas production, thousand barrels of oil equivalent per day	Production of liquid hydrocarbons, thousand barrels of oil equivalent per day	Output of refined products, thousand barrels per day	Sales of refined products, thousand barrels per day	Sales of petrochemical products, thousand tonne
<b>2012</b>					
ExxonMobil	1,516	2,405	5,416	6,761	24,982
Chevron	854	1,649	1,858	3,429	-
<b>2016</b>					
ExxonMobil	1,688	2,365	4,269	5,482	24,925
Chevron	875	1,719	1,292	2,675	6,080
Imperial Oil	20	336	362	484	908
Suncor Energy	6	617	429	521	-
Royal Dutch Shell	1,830	1,848	2,952	6,483	17,292
BP	1,220	2,048	1,685	5,600	-
TOTAL	1,181	1,271	1,871	4,183	-
Eni	793	878	444	652	3,759
PetroChina	1,491	2,516	1,678	3,104	21,320
Sinopec	349	830	2,929	3,802	45,856
Petrobras	323	2,224	1,887	2,064	-
PJSC Gazprom	7,450	1,299	1,024*	1,389*	-
PJSC NK Rosneft	1,080	4,282	1,956	2,006	3,500
PJSC LUKOIL	328	1,874	1,286	2,432	1,477

Note. \* – Information from PJSC Gazprom includes data on gas and petrochemicals.

Source: Authoring, based on [20]

**Table 7**

**Ratios of market capitalization and enterprise value to physical volumes of output and sales of refined products of the leading publicly traded oil and gas corporations in 2016, USD per barrel**

Company	Market capitalization, Output	Enterprise value, Output	Market capitalization, Sales	Enterprise value, Sales
ExxonMobil	87.70	96.86	68.30	75.43
Chevron	172.31	202.54	83.23	97.82
Imperial Oil	81.46	91.01	60.92	68.07
Suncor Energy	127.12	152.15	104.67	125.28
Royal Dutch Shell	77.58	102.42	35.32	46.64
BP	78.32	98.99	23.57	29.78
TOTAL	66.42	83.73	29.71	37.45
Eni	132.26	183.46	90.07	124.93
PetroChina	119.96	155.90	64.85	84.28
Sinopec	31.62	34.96	24.36	26.93
Petrobras	34.05	85.41	31.13	78.09
PJSC Gazprom	54.99	86.06	40.54	63.44
PJSC NK Rosneft	35.98	59.52	35.08	58.04
PJSC LUKOIL	32.94	38.80	16.67	19.63
Phillips 66	19.91	24.53	20.37	24.97
Marathon Petroleum	14.12	19.73	11.77	16.45

Source: Authoring, based on [20]

**Table 8**

**A structure of core activity net revenue of the leading publicly traded oil and gas corporations in Canada and Western Europe in 2016, percent**

Core activity	Canadian Natural Resources	Imperial Oil	Suncor Energy	Husky Energy	Royal Dutch Shell	BP	TOTAL	Eni	Equinor (Statoil)
Energy and electricity	–	–	–	–	–	–	–	57.5	–
Liquefied natural gas	–	–	–	–	10.82	8.53	9.81	–	20.14
Natural gas	13.03	21.92	7.62	32.34	2.75	–	–	–	–
Gas condensate	62.87	–	–	–	–	–	–	–	8.84
Crude oil	–	–	–	–	–	–	–	11.44	53.2
Bitumen	24.07	–	32.36	–	–	–	–	–	–
Synthetic oil	–	–	–	9.31	86.4	–	–	–	–
Chemical segment	–	4.18	–	–	–	90.92	43.83	30.71	–
Refining	–	73.9	60.02	58.35	–	–	–	–	17.82
Marketing and resale	–	–	–	–	–	–	46.36	–	–
Gathering and processing	1.03	–	–	–	–	–	–	–	–
Transportation	–	–	–	–	–	–	–	–	–
Distribution	–	–	–	–	–	–	–	–	–
Other revenue	–	–	–	–	0.03	0.55	–	0.35	–

Source: Authoring, based on [20]

**Table 9**

**Proved reserves life of liquid hydrocarbons of the twenty five leading publicly traded oil and gas corporations for 2008–2018, years**

Company	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
ExxonMobil	13.64	13.37	13.2	14.49	16.03	16.47	17.8	17.2	12.2	14.44	18.93
Chevron	12.18	10.35	9.26	9.56	10.04	10.04	10.02	9.84	10.06	10.4	10.44
ConocoPhillips	11.63	12.06	10.14	15.51	12.03	17.45	17.03	15.96	11.47	10.06	10.81
Occidental Petroleum	13.05	13.26	12.2	11.85	11.72	12.54	13.13	8.91	10.31	11.5	10.96

Devon Energy	9.64	15.38	15.89	15.44	14.87	13.16	11.43	8.08	8.14	9.22	9.22
Anadarko Petroleum	11.45	11.83	11.09	10.78	10.13	10.17	9.39	6.45	6.06	5.44	5.25
EOG Resources	10	10.88	14.02	13.11	13.04	12.26	11.92	11.22	11.96	11.71	11.4
Apache	11.16	10.08	10.46	10.11	9.93	9.48	9.59	7.67	6.75	7.24	7.33
Marathon Oil	8.24	13.53	12.24	14.46	13.15	13.71	14.95	16.12	17.4	11.19	11.19
Imperial Oil	18.32	31.36	32.94	41.92	45.45	42.34	44.55	35.58	10.57	12.68	31.43
Suncor Energy	25.56	24.72	16.3	18.69	18.5	21.7	20.76	19.32	19.52	17.07	15.35
Husky Energy	6.18	8.58	8.98	9.82	9.94	9.93	9.51	6.08	5.31	11.82	8.1
Canadian Natural Resources	32.62	26.05	23.97	28.32	25.73	24.4	22.45	22.52	25.6	30.87	28.85
Royal Dutch Shell	7.4	9.27	9.85	9.95	10.37	11.77	11.32	9.63	9.3	7.9	8.27
BP	11.78	11.36	12.36	13.42	13.36	13.71	13.96	12.81	13.79	12.94	14.33
TOTAL	10.69	11.29	12.24	12.93	12.73	12.71	14.05	12.41	11.64	11.09	10.58
Eni	8.88	9.42	9.96	11.13	10.38	10.61	10.67	10.74	10.57	11	10.93
Equinor (Statoil)	5.01	4.96	5.19	5.58	5.74	5.7	5.7	5.77	5.74	6.45	7.14
PetroChina	12.89	13.35	13.15	12.56	12.02	11.6	11.2	8.77	8.08	8.43	8.58
Sinopec	9.57	9.36	8.81	8.86	8.64	9.31	8.44	6.41	5.11	5.45	5.79
CNOOC	10.22	8.96	7.27	8.38	8.76	9.79	9.29	7.39	6.33	8.86	9.27
Petrobras	12.58	13.38	13.68	13.66	14.09	14.69	14.17	10.79	10.12	10.42	10.78
PJSC Gazprom	30.95	32.02	30.39	30.59	29.81	28.93	28.14	25.73	25.2	24.5	23.61
PJSC NK Rosneft	17.1	17.49	16.22	16.45	16.35	16.56	16.87	16.51	17.44	16.78	16.92
PJSC LUKOIL	20.56	19.03	18.81	19.96	19.76	19.69	18.7	16.8	18.19	18.34	18.33
<b>Average value</b>	<b>13.65</b>	<b>14.45</b>	<b>13.95</b>	<b>21.02</b>	<b>14.90</b>	<b>15.15</b>	<b>15</b>	<b>13.15</b>	<b>11.87</b>	<b>12.23</b>	<b>12.95</b>

Source: Authoring, based on [19, 20]

**Table 10**  
**Market capitalization of the twenty five leading publicly traded oil and gas corporations for 2006–2018, million USD**

Company	31.12. 2008	31.12. 2009	31.12. 2010	31.12. 2011	31.12. 2012	31.12. 2013	31.12. 2014	31.12. 2015	31.12. 2016	31.12. 2017	31.12. 2018
ExxonMobil	397,23 4	322,33 4	364,06 4	401,25 4	389,64 8	438,70 2	388,38 2	323,96 0	374,39 8	354,55 0	288,92 1
Chevron	148,17 3	154,57 5	183,18 3	210,79 6	210,51 6	239,02 8	210,85 9	169,37 8	222,63 0	238,45 0	207,01 0
ConocoPhillips	76,673	75,903	97,435	93,687	70,749	86,613	85,037	57,709	62,037	64,611	70,976
Occidental Petroleum	48,607	66,050	79,735	75,992	61,710	75,699	62,119	51,693	54,437	56,358	45,998
Devon Energy	29,058	33,092	33,775	25,054	20,767	25,091	24,974	12,958	23,885	21,735	10,085
Anadarko Petroleum	17,728	30,746	37,795	38,045	37,197	39,959	41,799	24,693	38,435	28,472	21,455
EOG Resources	16,620	24,569	23,225	26,501	32,810	45,835	50,482	38,924	58,304	62,423	50,764
Apache	24,946	34,710	45,593	34,793	30,744	34,017	23,596	16,811	24,068	16,084	9,836
Marathon Oil	19,316	22,104	26,291	20,606	21,677	24,604	19,096	8,523	14,662	14,391	11,744
Imperial Oil	28,780	32,944	34,365	37,838	36,370	37,483	36,568	27,610	29,488	25,993	19,842
Suncor Energy	18,130	55,480	59,873	45,037	50,028	51,755	45,934	37,323	54,535	60,365	44,285
Husky Energy	21,421	24,436	23,627	23,425	29,313	31,413	23,761	10,628	12,719	14,861	10,872
Canadian Natural Resources	21,547	39,399	48,336	41,140	31,408	36,738	33,807	23,904	35,406	43,782	29,020
Royal Dutch Shell	156,32 7	183,06 2	203,53 4	230,56 1	218,46 0	229,75 1	214,48 4	146,70 4	229,00 4	278,28 1	242,17 5
BP	141,52 8	181,70 9	136,98 7	135,11 1	131,31 9	150,13 8	116,75 0	96,591	131,97 5	150,32 9	136,32 4
TOTAL	121,51 0	135,27 0	127,68 7	117,85 0	116,19 5	139,30 9	117,49 0	104,50 0	124,27 0	139,20 8	137,90 8
Eni	84,391	92,888	79,092	75,046	87,664	87,384	67,812	54,104	58,724	59,600	56,695

Equinor (Statoil)	51,830	79,776	75,295	81,472	79,408	76,812	56,102	44,622	59,426	70,719	70,389
PetroChina	259,427	353,079	301,897	276,574	262,772	228,028	309,453	222,042	201,295	215,192	183,247
Sinopec	81,973	159,235	101,155	97,332	96,120	87,778	118,952	88,396	92,620	108,356	88,517
CNOOC	41,727	70,268	105,949	78,098	96,660	83,033	60,102	46,488	55,853	64,109	68,960
Petrobras	95,878	199,428	228,322	155,493	124,750	91,669	48,014	25,950	64,256	65,322	81,589
PJSC Gazprom	87,396	139,024	145,808	122,145	108,740	97,295	53,160	42,855	56,312	50,072	48,834
PJSC NK Rosneft	36,229	79,983	68,931	63,893	82,125	81,451	36,885	36,826	70,377	53,634	65,979
PJSC LUKOIL	27,710	47,462	44,405	40,972	49,933	47,051	29,855	22,947	40,538	41,081	50,127
<b>Average value</b>	<b>82,166</b>	<b>105,501</b>	<b>107,054</b>	<b>101,949</b>	<b>99,083</b>	<b>102,665</b>	<b>91,019</b>	<b>69,446</b>	<b>87,586</b>	<b>91,919</b>	<b>82,062</b>

Source: Authoring, based on [19, 20]

**Table 11**

**A structure of core activity net revenue of the leading publicly traded oil and gas corporations in China, Brazil, and Russia in 2016, percent**

Core activity	PetroChina	Sinopec	CNOOC	Petrobras	PJSC Gazprom	PJSC NK Rosneft	PJSC LUKOIL
Energy and electricity	–	–	–	8.49	7.88	–	–
Liquefied natural gas	–	–	–	–	–	–	–
Natural gas	16.2	3.74	82.82	1.82	54.04	33.25	23.61
Gas condensate					6.74		
Crude oil							
Bitumen	–	–	–	–	–	–	–
Synthetic oil	–	–	–	–	–	–	–
Chemical segment	22.88	10.81	–	–	24.51	65.57	75.09
Refining		27.61	–	55.89			
Marketing and resale	51.12	33.97	13.86				
Gathering and processing	9.72	–	–		3.26		–
Transportation	–	–	–	–	–	–	–
Distribution	–	–	–	33.79	–	–	–
Other revenue	0.08	23.87	3.32	0.01	3.57	1.18	1.3

Source: Authoring, based on [20]

## References

1. Minasyan V.B. [Assessment of risks arising from the use of multiplier technology to assess the shares]. *Finansy: teoriya i praktika = Finance: Theory and Practice*, 2018, vol. 22, no. 3, pp. 124–135. (In Russ.)  
URL: <https://doi.org/10.26794/2587-5671-2018-22-3-124-135>
2. Minasyan V.B., Ivko D.G. [Model risk analysis of multiplier technology applied at stock valuation of Russian companies]. *Finansy: teoriya i praktika = Finance: Theory and Practice*, 2019, vol. 23, no. 6, pp. 91–116. (In Russ.)  
URL: <https://doi.org/10.26794/2587-5671-2019-23-6-91-116>
3. Timofeev D.V. [Country risk premium in emerging markets]. *Korporativnye finansy = Journal of Corporate Finance Research*, 2015, vol. 9, no. 2, pp. 54–75. (In Russ.)  
URL: <https://doi.org/10.17323/j.jcfr.2073-0438.9.2.2015.54-75>

4. Khalikova M.A., Belai I.E., Galimzyanov R.N. [The evaluation of a controlling stake of the oil company]. *Internet-zhurnal Naukovedenie*, 2016, vol. 8, no. 3. (In Russ.) URL: <http://naukovedenie.ru/PDF/114EVN316.pdf>
5. Nazarova V.V., Shevyakina O.R. [Determination of an optimum premium paid in M&A transactions in oil and gas section]. *Korporativnye finansy = Journal of Corporate Finance Research*, 2015, vol. 9, no. 4, pp. 5–30. (In Russ.) URL: <https://doi.org/10.17323/j.jcfr.2073-0438.9.4.2015.5-30>
6. Lipatnikov V.S., Kirsanova K.A. [Assessment of the impact of the adverse economic geopolitical environment on the worth of Russian oil and gas companies]. *Upravlencheskie nauki = Management Sciences*, 2018, vol. 8, no. 2, pp. 30–43. (In Russ.) URL: <https://doi.org/10.26794/2404-022X-2018-8-2-30-43>
7. Kozlova A.S., Odinokova K.A., Taraskin D.S. [Most popular approaches to valuation of public companies]. *Vestnik Saratovskogo gosudarstvennogo sotsial'no-ekonomicheskogo universiteta = Bulletin of Saratov State Socio-Economic University*, 2019, no. 1, pp. 105–111. URL: <https://cyberleninka.ru/article/n/osnovnye-podhody-k-otsenke-stoimosti-publichnyh-kompaniy> (In Russ.)
8. Skavysh I.A. [The effectiveness of using industry-specific multipliers versus universal multipliers]. *Finansovoe pravo i upravlenie*, 2017, no. 1, pp. 1–10. (In Russ.) URL: <https://doi.org/10.7256/2454-0765.2017.1.22220>
9. Kokin A.S., Oskolkov I.M., Syzganova A.A. [Comparative approach to estimation of cost of stocks of the oil and gas companies of Russia on the basis of the fundamental analysis]. *Ekonomika: vchera, segodnya, zavtra = Economics: Yesterday, Today and Tomorrow*, 2019, vol. 9, no. 1–1, pp. 241–258. URL: <http://publishing-vak.ru/file/archive-economy-2019-1/25-kokin.pdf> (In Russ.)
10. Tatarintseva S.G., Samoilov N.A., Udalova D.V. [Financial control of indicators of investment attractiveness of a corporation in the accounting and value model]. *Innovatsionnoe razvitie ekonomiki = Innovative Development of Economy*, 2019, no. 1, pp. 210–216. URL: [http://www.ineconomic.ru/sites//field\\_print\\_version/jurnal-1-49-2019.pdf](http://www.ineconomic.ru/sites//field_print_version/jurnal-1-49-2019.pdf) (In Russ.)
11. Usmanova A.S., Nesterenko E.A., Taraskin D.S. [Valuation of public companies in Russia by business sector]. *Vestnik Saratovskogo gosudarstvennogo sotsial'no-ekonomicheskogo universiteta = Bulletin of Saratov State Socio-Economic University*, 2020, no. 2, pp. 103–107. URL: <https://cyberleninka.ru/article/n/otsenka-stoimosti-publichnyh-kompanii-rossii-po-otraslyam-hozyaystvovaniya> (In Russ.)
12. Ivko D.G. [Peculiarities of assessing Russian companies' value by using the method of market multipliers]. *Finansy i upravlenie = Finance and Management*, 2017, no. 1, pp. 34–46. (In Russ.) URL: <https://doi.org/10.7256/2409-7802.2017.1.22087>
13. Ivko D.G. [Estimating Russian company value: Risks related to using the method of market multipliers]. *Finansy i upravlenie = Finance and Management*, 2018, no. 1, pp. 8–22. (In Russ.) URL: <https://doi.org/10.25136/2409-7802.2018.1.25448>

14. Basiladze G.R. [Comparative analysis of investment appeal of PJSC “Lukoil”, PJSC “Rosneft”, PJSC “Gazprom”]. *Gumanitarnye, sotsial'no-ekonomicheskie i obshchestvennye nauki = Humanities, Social-Economic and Social Sciences*, 2017, no. 1, pp. 145–147. URL: <https://cyberleninka.ru/article/n/sravnitelnyy-analiz-investitsionnoy-privlekatelnosti-pao-lukoyl-pao-rosneft-pao-gazprom> (In Russ.)
15. Ponomareva S.V., Zheleznova I.V. [Features of share buybacks in Russia]. *Vestnik Permskogo natsional'nogo issledovatel'skogo politekhnicheskogo universiteta. Sotsial'no-ekonomicheskie nauki = PNRPU Sociology and Economics Bulletin*, 2017, no. 2, pp. 165–178. URL: <https://cyberleninka.ru/article/n/osobennosti-provedeniya-obratnogo-vykupa-aktsiy-kompaniyami-v-rossii> (In Russ.)
16. Dorofeeva K.A. [Organization of internal financial control in non-finance corporations]. *Izvestiâ Sankt-Peterburgskogo gosudarstvennogo èkonomičeskogo universiteta*, 2020, no. 4, pp. 108–113. URL: [https://unecon.ru/sites/default/files/izvestiya\\_no\\_4-2020.pdf](https://unecon.ru/sites/default/files/izvestiya_no_4-2020.pdf) (In Russ.)
17. Yurlov F.F., Kornilov D.A., Kornilova E.V., Plekhanova A.F. [Comparative evaluation of efficiency of large companies oil and gas sector]. *Vestnik NGIEI = Bulletin NGIEI*, 2020, no. 7, pp. 83–92. URL: <https://cyberleninka.ru/article/n/sravnitel'naya-otsenka-effektivnosti-krupnyh-kompaniy-neftegazovogo-sektora> (In Russ.)
18. Vasil'eva E.V., Petrova S.B. [Strategic analysis of factors affecting the development of oil and gas corporations in Russia]. *Vestnik Ekaterininskogo instituta = Bulletin of Catherine the Great National Institute*, 2015, no. 2, pp. 8–14. (In Russ.)
19. Shimko O.V. *Analiz rezul'tatov finansovo-khozyaistvennoi deyatelnosti vedushchikh publichnykh korporatsii neftegazovoi otrasli posle mirovogo finansovogo krizisa* [An analysis of the results of financial and economic activities of leading public corporations in the oil and gas industry after the global financial crisis]. Moscow, Nauka Publ., 2019, 339 p.
20. Shimko O.V. *Sovremennye osobennosti otsenki stoimosti neftegazovykh korporatsii sravnitel'nym podkhodom: monografiya* [Modern features of valuation of oil and gas corporations by a comparative approach: a monograph]. Moscow, Mezhdunarodnye otnosheniya Publ., 2018, 252 p.

### **Conflict-of-interest notification**

I, the author of this article, bindingly and explicitly declare of the partial and total lack of actual or potential conflict of interest with any other third party whatsoever, which may arise as a result of the publication of this article. This statement relates to the study, data collection and interpretation, writing and preparation of the article, and the decision to submit the manuscript for publication.